

Remarks

In the instant Office Action dated July 10, 2008, the following rejections are noted: claims 1-10 stand rejected under 35 U.S.C. § 112(2); and claims 1-4 stand rejected under 35 U.S.C. § 103(a) over Kawaji (U.S. Patent No. 6,072,215) in view of Hu (U.S. Patent Pub. No. 2005/0269624) and Williams (U.S. Patent Pub. No. 2002/0019099).

Applicant traverses the § 112(2) rejection because the issues raised by the Office Action are directed to the breadth of the claims instead of indefiniteness. Applicant traverses the § 103(a) rejection because the Office Action fails to provide sufficient detail concerning the proposed combination and because the cited references do not teach or suggest various aspects of the claimed invention. In an effort to facilitate prosecution Applicant has amended claim 1 to include aspects directed to an insulated planar gate portion of Applicant's second gate being located above Applicant's first gate on a top major surface of the semiconductor body. The cited portions of the Kawaji, Hu and Williams reference (either alone or in combination) do not teach an insulated planar gate that is located above an insulated trench gate on a top major surface of a semiconductor body. As such, the § 103(a) rejection cannot be maintained and Applicant requests that it be withdrawn. The following discussion particularly addresses the impropriety of each of the rejections raised in the instant Office Action.

Applicant respectfully traverses the § 112(2) rejection of claims 1-10 because the claims do particularly point out and distinctly claim the subject matter which Applicant regards as the invention. It appears that the Office Action has not asserted any specific claim language as being indefinite, but rather that limitations be inserted in order to address the ancillary questions raised in the Office Action (such as "Does the inventive concept require that the second gate be formed partly with the trench?", and "how many electrically parallel transistor cells are necessary to practice the invention?"). Applicant submits that such an assertion is contrary to M.P.E.P. § 2173.04 because the "(b)readth of a claim is not to be equated with indefiniteness." *See In re Miller*, 441 F.2d 689 (CCPA 1971). Applicant submits that the scope of the claims would be clear to one of skill in the art based upon Applicant's disclosure, and thus the claims are definite. *See, e.g.*, M.P.E.P. § 2171.

Applicant previously presented these arguments in the Responses dated October 9, 2007 and April 4, 2008 (hereby incorporated by reference in their entirety) to which the Office Action has failed to respond to the substance of Applicant's arguments as required. *See, e.g.*, M.P.E.P. § 707.07(f). While Applicant will address the merits, Applicant is concerned with the procedures and repeated effort involved herewith. In this context, Applicant will address examples of the ancillary questions raised in the Office Action to demonstrate how such questions are directed to the breadth of the claims and not indefiniteness. As a first example, in response to the following question, "Does the inventive concept require that the second gate be formed partly with the trench?", Applicant submits that the Office Action's question interjects a term ("the inventive concept"), which improperly attempts to ignore the claim as a whole. *See, e.g.*, 35 U.S.C. § 112(1). Claim 1, as a whole, sets forth subject matter in which the second gate includes at least a planar gate portion on a top surface of the semiconductor body, whereas claim 3 includes aspects directed to the second gate further including a trench gate portion that is located in the same trench as the first gate. As such, in some embodiments, the second gate can include a trench gate portion. Thus, the Office Action's question is clearly directed to the breadth of the claims. As a second example, in response to the following question, "how many electrically parallel transistor cells are necessary to practice the invention?", claim 1 recites a plurality of transistor cells and a plurality is commonly known as referring to a number greater than one. Thus, to practice the invention set forth in claim 1, the term "plurality" would necessarily be at issue. That issue, however, would not be an issue regarding anything except claim scope. The Office Action's question is once again directed to the breadth of the claims under the guise of indefiniteness. Accordingly, the § 112(2) rejection of claims 1-10 is improper and Applicant requests that it be withdrawn.

With the § 112(2) rejection having been addressed and overcome for the reasons discussed above, and as no further rejection of claims 5-10 is presented in the instant Office Action, Applicant submits that claims 5-10 should be indicated as allowable.

Applicant respectfully traverses the § 103(a) rejection of claims 1-4 because the Office Action fails to provide adequate detail regarding the proposed combination of the Kawaji and Hu references to enable Applicant to determine the propriety of such a

combination. In order to comply with 35 U.S.C. § 132, sufficient detail must be provided by the Examiner regarding the alleged correspondence between the claimed invention and the cited reference to enable Applicant to adequately respond to the rejections. *See, also*, 37 CFR 1.104 (“The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified.”) and M.P.E.P. § 706.02(j), (“It is important for an Examiner to properly communicate the basis for a rejection so that the issues can be identified early and the applicant can be given fair opportunity to reply.”)

In this instance, the Office Action cites to portions of the Kawaji reference relating to a gate structure that includes a first gate 230 and a second gate 203a (*see, e.g.*, Figure 13); the Office Action then also cites to portions of the Hu reference relating to a control gate 68 and a floating gate 40a (*see, e.g.*, Figure 2Q). Thus, the Office Action appears to be relying upon Kawaji’s gates and Hu’s gates in an attempt to assert correspondence to various aspects relating to Applicant’s first and second gates. The Office Action, however, does not provide any detail regarding how any element of Hu (or even which elements) is to be combined with the Kawaji reference. As such, it is unclear whether the Office Action is proposing to replace Kawaji’s first gate 230 or second gate 203a with one or both of Hu’s gates 68 and 40a, or whether the Office Action is adding Hu’s gates (or some other elements) to Kawaji’s gates 230 and 203a in some unspecified manner. According to M.P.E.P. § 2143, “The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR* noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit.” Thus, Applicant requests that the Examiner explicitly identify how the Examiner is proposing to combine the Kawaji and Hu references. Without such explanation, the § 103(a) rejection of claims 1-4 is improper and must be withdrawn.

Applicant further traverses the § 103(a) rejection of claims 1-4 because the Office Action’s asserted basis to combine the Kawaji, Hu and Williams references is contrary to the requirements of § 103 and relevant law. “A patent composed of several elements is not proved obvious merely by demonstrating that each element was, independently, known in the prior art.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (U.S. 2007). In this instance, the Office Action improperly concludes that it would be obvious to

combine the cited teachings of the Kawaji, Hu and Williams references “in order to achieve a more compact dual gate structure”. *See, e.g.*, page 4 of the instant Office Action. The Office Action, however, has not provided any evidence that the proposed combination would achieve a more compact dual gate structure in the configuration taught by the Kawaji reference. Applicant submits that the statements made in the Office Action amount to no more than conclusory statements of generalized advantages and convenient assumptions about skilled artisans. Such statements and assumptions are inadequate to support a finding of motivation, which is a factual question that cannot be resolved on subjective belief and unknown authority. *See, e.g.*, M.P.E.P. § 2142 (“rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”). Accordingly, the § 103(a) rejection of claims 1-4 is improper and Applicant requests that it be withdrawn.

In view of the issues presented above, should any rejection based upon the Kawaji, Hu and Williams references be maintained, Applicant respectfully requests an opportunity to respond prior to a final rejection. According to M.P.E.P. § 706.07, “Before final rejection is in order a clear issue should be developed between the examiner and applicant.” Applicant submits that a clear issue has not been developed between Applicant and the Examiner due to the lack of any explanation regarding how the Kawaji and Hu references are being combined. Accordingly, should any rejection based upon these references be maintained, Applicant should be afforded an opportunity to respond prior to a final rejection.

Applicant further traverses the § 103(a) rejection of claims 2 and 3 because the Office Action has failed to establish a *prima facie* case of obviousness. According to M.P.E.P. § 2142, “The Examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the Examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.” In this instance, the Office Action fails to assert correspondence to numerous aspects of the claimed invention. The following are specific examples of aspects of the claimed invention that are not addressed in the instant Office Action.

Regarding claim 2, the Office Action has not cited to any portion of the Kawaji, Hu or Williams reference as allegedly corresponding to aspects of the claimed invention directed to the second gate being located on top of and extending laterally both ways from the trench that forms the first gate. Contrary to the Office Action's implication, Figure 2Q of the Hu reference does not show that control gate 68 (*i.e.*, the Office Action's alleged second gate) is located on top of the trench that contains floating gate 40a (*i.e.*, the Office Action's alleged second gate). Hu's control gate 68 only extends on one side of the trench that contains floating gate 40a, with another separate gate being located on the other side of the trench. Moreover, Hu's control gate 68 does not have a planar gate portion as does Applicant's second gate.

Regarding claim 3, the Office Action has not cited to any portion of the Kawaji, Hu or Williams reference as allegedly corresponding to aspects of the claimed invention directed to the second gate having an insulated trench-gate portion and an insulated planar gate portion. Contrary to the Office Action's implication, Figure 2Q of the Hu reference does not show that control gate 68 (*i.e.*, the Office Action's alleged second gate) has an insulated trench-gate portion or that control gate 68 has a planar gate portion. Figure 13 of the Kawaji reference also does not teach that second gate 203a has an insulated trench-gate portion

In view of the above, the Office Action has failed to establish a *prima facie* case of obviousness. Accordingly, the § 103(a) rejection of claims 2 and 3 is improper and Applicant requests that it be withdrawn.

Applicant notes that minor amendments have been made to various claims to improve readability and to remove unnecessary reference numerals. These amendments are not being made to overcome any of the rejections raised in the instant Office Action, which fail for at least the reasons discussed above. Applicant has also added new claims 11-16. Applicant submits that the subject matter of claims 11-16 is fully supported by Applicant's disclosure (*see, e.g.*, Figures 3 and 13), and Applicant submits that claims 11-16 are allowable over the cited references for at least the reasons discussed above.

In view of the remarks above, Applicant believes that each of the rejections has been overcome and the application is in condition for allowance. Should there be any remaining issues that could be readily addressed over the telephone, the Examiner is asked to contact the agent overseeing the application file, Peter Zawilski, of NXP Corporation at (408) 474-9063 (or the undersigned).

Please direct all correspondence to:

Corporate Patent Counsel
NXP Intellectual Property & Standards
1109 McKay Drive; Mail Stop SJ41
San Jose, CA 95131

CUSTOMER NO. 65913

By: 

Name: Robert J. Crawford
Reg. No.: 32,122
651-686-6633
(NXPS.337PA)